

WHAT IS CLAIMED IS:

1. A steering system for a vehicle, the steering system comprising
a steering grip operatable by a driver;
an actuating unit for operating steered vehicle wheels of the vehicle;
a steering angle setpoint generator for responding to the steering grip and producing
a steering angle setpoint signal;
a steering angle actual-value sensor for responding to the steered vehicle wheels
and producing an actual steering angle value signal;
a controller arrangement for activating the actuating unit as a function of a
comparison between the steering-angle setpoint signal and the actual steering angle value
signal;
a manual force regulator coupled via a flexible coupling element with the steering
grip, the manual force regulator for simulating steering forces on the steering grip; and
a damping device for interacting with the steering grip directly or indirectly to
dampen relative adjusting motions between the steering grip and the manual force regulator.
2. The steering system as recited in claim 1 wherein the steering grip is a steering
wheel.
3. The steering system as recited in claim 1 wherein the coupling element includes a
shaft, the shaft including a first shaft section rigidly connected to the steering grip and a
second shaft section rigidly connected to the manual force regulator, the first shaft section
being coupled with the second shaft section via a spring device, the first and second shaft
sections being capable of rotating relative to one another against an elastic resistance, the
damping device being capable of damping the rotating of the first and second shaft sections
relative to one another.

4. The steering system as recited in claim 3 wherein the spring device includes at least one of a torque rod and a C-spring rigidly connected to the first and second shaft sections.
5. The steering system as recited in claim 1 wherein the damping device engages:
at least one of the steering grip and a first component rigidly connected to the steering grip; and
at least one of the manual force regulator, a second component rigidly connected to the manual force regulator and a third component stationary relative to the steering grip.
6. The steering system as recited in claim 1 wherein the coupling element includes a first component rigidly connected to the steering grip and a second component rigidly connected to the manual force regulator, the first component being coupled with the second component via a spring device, the first and second components being capable of rotating relative to one another against an elastic resistance, the damping device being capable of damping the rotating of the first and second components relative to one another, the damping device engaging:
at least one of the steering grip and the first component; and
at least one of the manual force regulator, the second component and a third component, the third component being stationary relative to the steering grip;
the damping device including at least one friction member disposed adjacent to the first component and at least one of the spring device, the second component and the third component, the damping device tending to produce a friction resistance counteracting motion of the first component relative to at least one of the spring device, the second component and the third component.
7. The steering system as recited in claim 6 wherein the coupling element includes a shaft, the first component including a first shaft section of the shaft and the second component including a second shaft section of the shaft.

8. The steering system as recited in claim 6 wherein the third component is a housing member.

9. The steering system as recited in claim 1 wherein the damping device operates at least one of electrically, electronically and magnetically.

10. The steering system as recited in claim 1 wherein the coupling element includes a shaft, the shaft including a first shaft section rigidly connected to the steering grip and a second shaft section rigidly connected to the manual force regulator, the first shaft section being coupled with the second shaft section via a spring device, the first and second shaft sections being capable of rotating relative to one another against an elastic resistance, the damping device being capable of damping the rotating of the first and second shaft sections relative to one another, the damping device engaging:

at least one of the steering grip and the first shaft section; and

at least one of the manual force regulator, the second shaft section and a third component, the third component being stationary relative to the steering grip; the damping device including at least one bearing member disposed between the first shaft section and at least one of the spring device, the second shaft section and the third component.